



SEQUENCE LISTING

- (1) GENERAL INFORMATION
- (i) APPLICANT: Jung, Rudolf Beach, Larry R. Dress, Virginia M. Rao, A. Gururaj Ranch, Jerome P. Ertl, David S. Higgins, Regina K.
- (ii) TITLE OF THE INVENTION: Alteration of Amino Acid compositions in Seeds
- (iii) NUMBER OF SEQUENCES: 13
- (iv) CORRESPONDENCE ADDRESS:
 - (A) ADDRESSEE: Pioneer Hi-Bred International, Inc.
 - (B) STREET: 7100 NW 62nd Avenue, P.O. Box 1000
 - (C) CITY: Johnston
 - (D) STATE: IA
 - (E) COUNTRY: USA
 - (F) ZIP: 50131
- (v) COMPUTER READABLE FORM:
 - (A) MEDIUM TYPE: Diskette
 - (B) COMPUTER: IBM Compatible
 - (C) OPERATING SYSTEM: DOS
 - (D) SOFTWARE: FastSEQ for Windows Version 2.0
- (vi) CURRENT APPLICATION DATA:
 - (A) APPLICATION NUMBER:
 - (B) FILING DATE:
 - (C) CLASSIFICATION:
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER:
 - (B) FILING DATE:
- (viii) ATTORNEY/AGENT INFORMATION:
 - (A) NAME: Michel, Marianne H
 - (B) REGISTRATION NUMBER: 35,286
 - (C) REFERENCE/DOCKET NUMBER: 0815
- (ix) TELECOMMUNICATION INFORMATION:
 - (A) TELEPHONE: 515-334-4467
 - (B) TELEFAX: 515-334-6883
 - (C) TELEX:
 - (2) INFORMATION FOR SEQ ID NO:1:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 3363 base pairs
 - (B) TYPE: nucleic acid



(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Other

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

The second secon	60
TCGACCTCGA GGGGGGCCC GGTACCCAGC TTTTGTTCCC TTTAGTGAGG GTTAATTGCG	120
TO THE TARGETT OF THE PROPERTY	180
TO THE PROPERTY AND THE ANALYSIS AND THE	240
	300
	360
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TO THE TARGET AND ACCOUNTATION ACAGAMICAG GOGATARCOC MOST	480
ANACCOCAGG AACCGTAAAA AGGCCGCGII GCIGGG	540
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THE GOLD CONTROL AND COME CONTROL CONT	660
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The second and a cococococococococococococococococococ	840
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THE REPORT OF THE PROPERTY OF	1020
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THE GRADGE CATTACCCC AGAAAAAAG GAICICAAGA AGAICU	1140
GGGGGTGTGA CGCTCAGTGG AACGAAAACT CACGITAAGG GHIIII	1200
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TO THE TOTAL PROPERTY OF THE ATTEMPT	
CCCCTTACCA TCTGGCCCCA GIGCIGCAAI GIIII	1380 1440
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TO THE COMPAGN ACTED AT ACT TO CHARLE I I GOLD TO THE COLOR OF THE COL	1620
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CT CT CT CT CT CTC TATCCCCCCCA CCGAGTTGCT CTIGCCCCGC CTCATTTCC	1920
TO THE TOTAL CAMPAGE CACAACTUTE AND COLOR AND	1980
TOTAL CONTRACTOR OF THE TOTAL	2040
mommanaa Archarda Archar	2100
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THE PART OF THE PA	2520
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TOTAL TOTAL COCCOMMENT OF THE PROPERTY OF THE	2700
	2760
TO THE PROPERTY OF THE PROPERT	2820
adda Admon Cocco Colland Clorental Coccinia	2880
THE TARGET AND THE TA	2940
THE SERVICE OF THE PROPERTY OF	3000 3060
GTCGAACTTA GGCACTAAGG GATGTGAGGG CATCATCATCA GCGAGCAGCT GCGTTGACCA CATCACCACA ATTTTCCAAA TAGAGTTTCA TTTCTTCGTC GTCAGCAGCT GCGTTGACCA	3060
CATOMOS	



TGTAGTCACA CATGGAAGCC CTACACCCCA AGTTGCAATA CTTGACGGTG TCTGGTTCAT 3120
CTGAGTTGGA CACAAGGGCC AATTTGGGGA AGCCTGTAGG GCATTTTCCG CTACTTGTGA 3180
GTTTACACCT ACAGACGCCT GCGCATAACT TCTGAGCACC ACGGACGCGG CAAAGGTTGT 3240
AGCAGTTTCT TCCTAGGGTG CTCCTGCAGC AACTCTTGCC TTCTACTTGC ACCTGTTCGA 3300
GAACCAACCC CAGTATAAGT AAACACACCA TCACACCCTT GAGGCCCTT CTGGTGCCA 3360
TGG

(2) INFORMATION FOR SEQ ID NO:2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 3365 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Other

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

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TCGACCTCGA GGGGGGCCC GGTACCCAGC TTTTGTTCCC TTTAGTGAGG GTTAATTGCG	120
TCGACCTCGA GGGGGGGCCC GGTACCCAGC TITIGITCCC TTTTGTTCC GCTCACAATT CGCTTGGCGT AATCATGGTC ATAGCTGTTT CCTGTGTGAA ATTGTTATCC GCTCACAATT CGCTTGGCGT AATCATGGTC ATAGCTGTTAAAGCCT GGGGTGCCTA ATGAGTGAGC	180
CGCTTGGCGT AATCATGGTC ATAGCTGTTT CCTGTGTGAA ATGAGTGAGC CCACACAACA TACGAGCCGG AAGCATAAAG TGTAAAGCCT GGGGTGCCTA ATGAGTGAGC CCACACAACA TACGAGCCGG AAGCATAAAG CCCGCTTTCC AGTCGGGAAA CCTGTCGTGC	240
CCACACAACA TACGAGCCGG AAGCATAAAG TGTAAAGCCT GGGGAAA CCTGTCGTGC TAACTCACAT TAATTGCGTT GCGCTCACTG CCCGCTTTCC AGTCGGGAAA CCTGTCGTGC TAACTCACAT TAATTGCGTT GCGCTCACTG CCGGAGAGGCG GTTTGCGTAT TGGGCGCTCT	300
TAACTCACAT TAATTGCGTT GCGCTCACTG CCCGCTTTCC NOTOGCGTAT TGGGCGCTCT CAGCTGCATT AATGAATCGG CCAACGCGCG GGGAGAGGCG GTTTGCGTAT TGGGCGCTCTC CAGCTGCATT AATGAATCGG CCAACGCGCG TCGCTCGTTC GGCTGCGCG AGCGGTATCA	360
CAGCTGCATT AATGAATCGG CCAACGCGCG GGGAGAGGCG CTTTGCGCGCG AGCGGTATCA TCCGCTTCCT CGCTCACTGA CTCGCTGCGC TCGGTCGTTC GGCTGCGCG AGGAAAGAAC	420
TCCGCTTCCT CGCTCACTGA CTCGCTGCGC TCGGTCGTTC GGGATAACGC AGGAAAGAAC GCTCACTCAA AGGCGGTAAT ACGGTTATCC ACAGAATCAG GGGATAACGC AGGAAAGAAC GCTCACTCAA AGGCCGCGTAAAA AGGCCGCGTT GCTGGCGTTT	480
GCTCACTCAA AGGCCGGTAAT ACGGTTATCC ACAGAATCAG GOGCCGCGTT GCTGGCGTTT ATGTGAGCAA AAGGCCAGCA AAAGGCCAGG AACCGTAAAA AGGCCGCGTT GCTGGCGTTT ATGTGAGCAA AAGGCCAGCA CACAAAAATC GACGCTCAAG TCAGAGGTGG	540
ATGTGAGCAA AAGGCCAGCA AAAGGCCAGG AACCGTAAAA ACGGCTCAAG TCAGAGGTGG TTCCATAGGC TCCGCCCCCC TGACGAGCAT CACAAAAATC GACGCTCAAG TCAGAGGTGC TTCCATAGGC TCCGCCCCCC TGACGAGCAT CCCTTTCCCC CTGGAAGCTC CCTCGTGCGC	600
TTCCATAGGC TCCGCCCCCC TGACGAGCAT CACAAAAATC CACGAAGCTC CCTCGTGCGC CGAAACCCGA CAGGACTATA AAGATACCAG GCGTTTCCCC CTGGAAGCTC CCTCGGGAAGC CGAAACCCGA CAGGACTATA AAGATACCAG TACCTGTCCG CCTTTCTCCC TTCGGGAAGC	660
CGAAACCCGA CAGGACTATA AAGATACCAG GCGTTTCCCC CTGGGGAAGC TCTCCTGTTC CGACCCTGCC GCTTACCGGA TACCTGTCCG CCTTTCTCCC TTCGGGAAGC TCTCCTGTTC CGACCCTGCC GCTTACCGGA TACCTCAGTT CGGTGTAGGT CGTTCGCTCC	720
TCTCCTGTTC CGACCCTGCC GCTTACCGGA TACCTGTCCG CGTTCGCTCC GTGGCGCTTT CTCATAGCTC ACGCTGTAGG TATCTCAGTT CGGTGTAGGT CGTTCGCTCC GTGGCGCTTT CTCATAGCTC ACGCTGTAGC GCTGCGCCTT ATCCGGTAAC	780
GTGGCGCTTT CTCATAGCTC ACGCTGTAGG TATCTCAGTT CGGCCCCTT ATCCGGTAAC AAGCTGGGCT GTGTGCACGA ACCCCCCGTT CAGCCCGACC GCTGGCAGC AGCCACTGGT AAGCTGGGCT GTGTGCACGA ACCCCCCGTT CAGCCCGACC CACTGGCAGC AGCCACTGGT	840
AAGCTGGGCT GTGTGCACGA ACCCCCCGTT CAGCCCGACC GGTTGCAGC AGCCACTGGT TATCGTCTTG AGTCCAACCC GGTAAGACAC GACTTATCGC CACTGGCAGC AGCCACTGGT TATCGTCTTG AGTCCAACCC GGTAAGACAC GACTTATCGC AGTTCTTGAA GTGGTGGCCT	_
TATCGTCTTG AGTCCAACCC GGTAAGACAC GACTIATCGC CHOTOTTGAA GTGGTGGCCT AACAGGATTA GCAGAGCGAG GTATGTAGGC GGTGCTACAG AGTTCTTGAA GCCAGTTACC	900
AACAGGATTA GCAGAGCGAG GTATGTAGGC GGTGCTACAG TOTOGCAGA GCCAGTTACC AACTACGGCT ACACTAGAAG GACAGTATTT GGTATCTGCG CTCTGCTGAA GCCAGTTACC AACTACGGCT ACACTAGAAG GACAGTATTT GGTATCTAGAA CCACCGCTGG TAGCGGTGGT	960
AACTACGGCT ACACTAGAAG GACAGTATTT GGTATCIGCG CTCTCGGTGGT TAGCGGTGGT TTCGGAAAAA GAGTTGGTAG CTCTTGATCC GGCAAACAAA CCACCGCTGG TAGCGGTGGT TTCGGAAAAA GAGTTGGTAG CTCTTGATCC AGAAAAAAG GATCTCAAGA AGATCCTTTG	1020
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TCAATCTAAA GTATATGA GTAAACTTGG TCATGCATAG TTGCCTGACT CCCCGTCGTG	1320
GCACCTATCT CAGCGATCTG TCTATTTCGT TCATCCATAS TTGGCTGCAAT GATACCGCGA TAGATAACTA CGATACGGGA GGGCTTACCA TCTGGCCCCA GTGCTGCAAT GATACCGCGA TAGATAACTA CGATACGGGA GGGCTTACCA TCTGTATGA GCAATAACC AGCCAGCCGG AAGGGCCGAG	1380
TAGATAACTA CGATACGGGA GGGCTTACCA TCTGGCCCCA GTGGATAAACTA CGATACGGGA AAGGGCCGAG GACCCACGCT CACCGGCTCC AGATTTATCA GCAATAAACC AGCCAGCCGG AAGGGCCGAG GACCCACGCT CACCAGCCAGC TCCATCCAGT CTATTAATTG TTGCCGGGAA	1440
GACCCACGCT CACCGGCTCC AGATTTATCA GCAATAAACC AGGTTATAATTG TTGCCGGGAA CGCAGAAGTG GTCCTGCAAC TTTATCCGCC TCCATCCAGT CTATTAATTG TTGCCGGAA CGCAGAAGTG GTCCTGCAAC TTTTATCCGCCAACG TTGTTGCCAT TGCTACAGGC	1500
CGCAGAAGTG GTCCTGCAAC TTTATCCGCC TCCATCCAGT CTTTATCGCAT TGCTACAGGC GCTAGAGTAA GTAGTTCGCC AGTTAATAGT TTGCGCAACG TTGTTGCCAT TGCTACAGGC GCTAGAGTAA GTAGTTCGCC AGTTAATAGT GCTTCATTCA GCTCCGGTTC CCAACGATCA	1560
GCTAGAGTAA GTAGTTCGCC AGTTAATAGT TTGCGCAACG TTGTCGGTTC CCAACGATCA ATCGTGGTGT CACGCTCGTC GTTTGGTATG GCTTCATTCA GCTCCGGTTC CCGACCGATCA	1620
ATCGTGGTGT CACGCTCGTC GTTTGGTATG GCTTCATTCA GGTCCTCCT CGGTCCTCCG AGGCGAGTTA CATGATCCCC CATGTTGTGC AAAAAAGCGG TTAGCTCCTT CGGTCCTCCA AGGCGAGTTA CATGATCCCC CATGTTGTGC ATTATCACTCA TGGTTATGGC AGCACTGCAT	1680
AGGCGAGTTA CATGATCCCC CATGTTGTGC AAAAAAGCGG TTTTTTGGC AGCACTGCAT ATCGTTGTCA GAAGTAAGTT GGCCGCAGTG TTATCACTCA TGGTTATGGC AGCACTGCAT ATCGTTGTCA GAAGTAAGTT AGCTTTTCTG TGACTGGTGA GTACTCAACC	1740
ATCGTTGTCA GAAGTAAGTT GGCCGCAGIG TIATCACTOT TGACTGGTGA GTACTCAACC	1800
ATCGTTGTCA GAAGTAAGTT GGCCGCAGTG TTATCACTCA TGACTGGTGA GTACTCAACC AATTCTCTTA CTGTCATGCC ATCCGTAAGA TGCTTTTCTG TGACTGGTGA GTACTCAACC AAGTCATTCT GAGAATAGTG TATGCGGCGA CCGAGTTGCT CTTGCCCGGC GTCAATACGG AAGTCATTCT GAGAATAGTG TATGCGGCGA TCATTGGAAA ACGTTCTTCG	1860
AAGTCATTCT GAGAATAGTG TATGCGGCGG CCGATCTCA TCATTGGAAA ACGTTCTTCG	1920
GATAATACCG CGCCACATAG CAGAACTITA TATACAGATGCA GTTCGATGTA ACCCACTCGT	1980
GGGCGAAAAC TCTCAAGGAT CTTACCGCTG TTGACGACGG TTTCTGGGTG AGCAAAAACA	2040
GCACCCAACT GATCTTCAGC ATCTTTTACT AGGGGGACAC GGAAATGTTG AATACTCATA	2100
GGAAGGCAAA ATGCCGCAAA AAAGGGAATA AGGCCCTT ATTGTCTCAT GAGCGGATAC	2160
CTCTTCCTTT TTCAATATTA TTGAAGCATT ATACCCCTTC CGCGCACATT TCCCCGAAAA	2220
CTCTTCCTTT TTCAATATTA TTGAAGCATT TATCAGGGTT ATCCCCGAAAA ATATTTGAAT GTATTTAGAA AAATAAACAA ATAGGGGTTC CGCGCACATT TCCCCGAAAA ATATTTGAAT GTATTAGAA TTTTGTTAAA	2280
ATATTTGAAT GTATTTAGAA AAATAAACAA ATAGGGGTTC CGCGTTAAAT TTTTGTTAAA GTGCCACCTA AATTGTAAGC GTTAATATTT TGTTAAAATT CGCGTAAAT TCAAAAGAAT	2340
GTGCCACCTA AATTGTAAGC GTTAATATTT TGTTAAAATT GGCTTATAAA TCAAAAGAAT TCAGCTCATT TTTTAACCAA TAGGCCGAAA TCGGCAAAAT CCCTTATAAA TCAAAAGAAT	

TGGTG



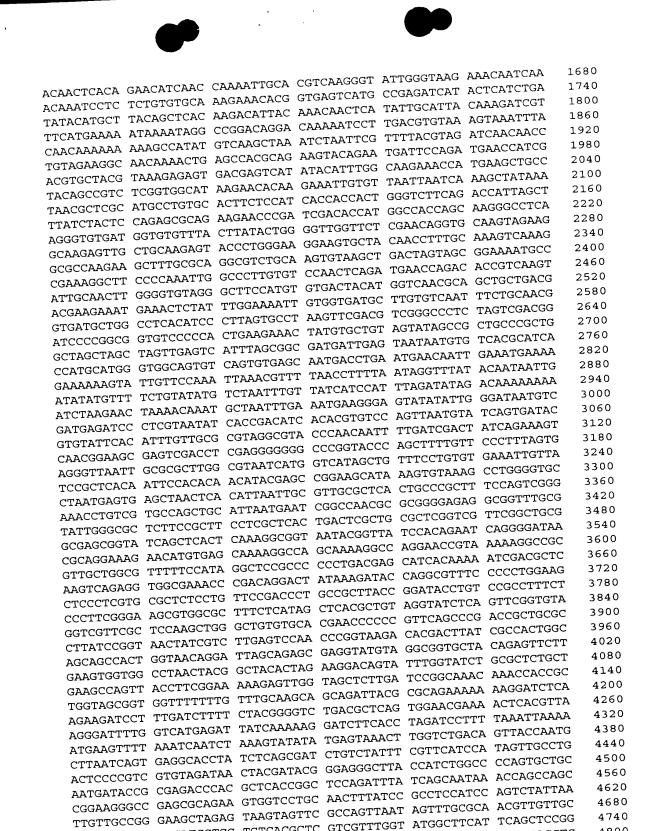
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3360 3365

(2) INFORMATION FOR SEQ ID NO:3:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 5360 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Other
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

(XI) SEQUENCE	<i>-</i>
CTAAATTGTA AGCGTTAATA TTTTGTTAAA ATTCGCGTTA AATTTTTGTT AAATCAGCCGA	60
CTAAATTGTA AGCGTTAATA TTTTGTTAAA ATTCCCTTAT AAATCAAAAG AATAGACCGA	120
ATTITITAAC CAATAGGCCG AAAICGGCAAA GAAGGCCA CTATTAAAGA ACGTGGACTC	180
GATAGGGTTG AGTGTTC CAGIIIGGAA GGGGATGGC CCACTACGTG AACCATCACC	240
CAACGTCAAA GGGCGAAAAA CCGTCTAICA GGACCTA AATCGGAACC CTAAAGGGAG	300
CTAATCAAGT TTTTTGGGGT CGAGGTGCCG TAATCAAGG CGAGAAAGG AAGGGAAGAA	360
CTAATCAAGT TTTTTGGGGT CGAGGTGCCG TAAAGCACTA ATTCAGGAAAGA AAGGGAAAGAA CCCCCGATTT AGAGCTTGAC GGGGAAAGCC GGCGAACGTG GCGAGAAAGG AAGGGAAAGAA AAGCACTTA AAGCACTACA AAGCACTACA AAGCACTACA AAGCACTACA AAGCACACTACA AAGCACTACA AAGCACTACACTA	420
AGCGAAAGGA GCGGCCCTA GGGCCCTGGC AAGTGTAGCC GATTCGCCAT TCAGGCTGCG	480
AGCGAAAGGA GCGGGCGCTA GGGCGCTGGC AAGTGTAGCG GTCTTCGCCAT TCAGGCTGCG CACACCCGCC GCGCTTAATG CGCCGCTACA GGGCGCGTCC CATTCGCCAGC TGGCGAAAGG	540
	600
CAACTGTTGG GAAGGCGAT TAAGTTGGGT AACGCCAGGG TTTTCCCAGT CACGACGITG GGGATGTGCT GCAAGGCGAT TAAGTTGGGT AACGCCAGGG TTTTCCCAGT CACGACGITG	660
GGGATGTGCT GCAAGGCGAT TAAGTTGGGT ATOOTTCACTA TAGGGCGAAT TGGAGCTCCA TAAAACGACG GCCAGTGAGC GCGCGTAATA CGACTCACTA TAGGGCGAAT TGGAGCTCCA TAAAACGACG GCCCTAAAGC	720
TAAAACGACG GCCAGTGAGC GCGCGTAATA CGACTCACTA TAGGGCGCCG GCCCTAAAGC CCGCGGTGGC GGCCGCTCTA GATTATATAA TTTATAAGCT AAACAACCCG GCCCTAAAGC CCGCGGTGGC GGCCGCTCTA AATAACTCAC GGGAGTTTCG AACGTCCACT TCGTCGCACG	780
CCGCGGTGGC GGCCGCTCTA GATTATATAA TTTATAAGCT ALCOTTCACT TCGTCGCACG ACTATCGTAT CACCTATCTA AATAAGTCAC GGGAGTTTCG AACGTCCACT TCGTCGCACG ACTATCGTAT CACCCATATT CACGCAATCT CCACACATAA AGGTTTATGT	840
ACTATCGTAT CACCTATCTA AATAAGTCAC GGGAGTITCG AACTACACATAA AGGTTTATGT GAATTGCATG TTTCTTGTTG GAAGCATATT CACGCAATCT CCACACATAA AGGTTTATGT GAATTGCATG TTTCTTGTTG GAAGCATATT CACGCAATCT GGATGCATAT GTATGGTTCT	900
GAATTGCATG TTTCTTGTTG GAAGCATATT CACGCAATCT CCACACATAT GTATGGTTCT ATAAACTTAC ATTTAGCTCA GTTTAATTAC AGTCTTATTT ATCTTAATTC ACTCCAACAT	960
ATAAACTTAC ATTTAGCTCA GTTTAATTAC AGTCITATIT GGATTAATTC ACTCCAACAT CAATCCATAT AAGTTAGAGT AAAAAATAAG TTTAAATTTT ATCTTAATTC ACTCCAACAT CAATCCATAT AAGTTAGAGT AAAAAATAAG TTTAAATTTT ATCTTAATTGAG GTGAATTTGG	1020
CAATCCATAT AAGTTAGAGT AAAAAATAAG TTTAAATIII ATCTTATTGAG GTGAATTTGG ATATGGATCT ACAATACTCA TGTGCATCCA AACAAACTAC TTATATTGAG GTGAATTTCA ATATGGATCT ACAATACTCA TGTGCATCCA AACCATTTCAT ATATTAAAGC ACCAGTTTCA	1080
ATATGGATCT ACAATACTCA TGTGCATCCA AACAAACTAC TTATTAAAGC ACCAGTTTCA TAGAAATTAA ACTAACTTAC ACACTAAGCC AATCTTTACT ATATTAAAGC ACCAGTTTCA TAGAAATTAA ACTAACTTAC ACACTAAGAA ACTCCTACAT TTCTTTATAA TCAACCCGCA	1140
TAGAAATTAA ACTAACTTAC ACACTAAGCC AATCIITACI ATTATTATAA TCAACCCGCA ACGATCGTCC CGCGTCAATA TTATTAAAAA ACTCCTACAT TTCTTTATAA TCAACCCGCA ACGATCGTCC CGCGTCAATA TAATTAAAAA ACTCCTACAT ATGTACAAAA TAAGGTGAAA	1200
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	1320
TTATCTATAA GTGTTCTGGA TATTGGTTGT TGGCTCCCAT ATTGTATATA TATATATCAT AGAAAACATA TGTTTTATTA AAACAAAATT TATCATATAT CATATATAT	1380
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GTATTAAGAT GAATAAGAGG GTATCCAAAT AAAAAACIIG 17000TAAAAAGAGAGA AGGGGTTGGA AACGATTAAA CGATTAAATC TCTTCCTAGT CAAAATTGAA TAGAAGGAGA AGGGGTTGGA AACGATTAAA CGATTAAATC CAGGTGCAAC CGTATAAGTC CTAAAGTGGT	1560
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TTTAATATAT CCCAATCCC TTCGATCATC CAGGIGCAAC COMMITTEE TGTATCCTTA GAGGAACACG AAAGAACCAT GCATTGGCAT GTAAAGCTCC AAGAATTTGT TGTATCCTTA	
GAGGAACACG ARTISTE CONTRACTOR OF THE CONTRACTOR	



4800

4860

4920

4980

5040

5100

CATTGCTACA GGCATCGTGG TGTCACGCTC GTCGTTTGGT ATGGCTTCAT TCAGCTCCGG TTCCCAACGA TCAAGGCGAG TTACATGATC CCCCATGTTG TGCAAAAAAG CGGTTAGCTC

CTTCGGTCCT CCGATCGTTG TCAGAAGTAA GTTGGCCGCA GTGTTATCAC TCATGGTTAT

GGCAGCACTG CATAATTCTC TTACTGTCAT GCCATCCGTA AGATGCTTTT CTGTGACTGG

TGAGTACTCA ACCAAGTCAT TCTGAGAATA GTGTATGCGG CGACCGAGTT GCTCTTGCCC

GGCGTCAATA CGGGATAATA CCGCGCCACA TAGCAGAACT TTAAAAGTGC TCATCATTGG

AAAACGTTCT TCGGGGCGAA AACTCTCAAG GATCTTACCG CTGTTGAGAT CCAGTTCGAT





GTAACCCACT CGTGCACCCA ACTGATCTTC AGCATCTTT ACTTTCACCA GCGTTTCTGG 520
GTGAGCAAAA ACAGGAAGGC AAAATGCCGC AAAAAAGGGA ATAAGGGCGA CACGGAAATG 5220
TTGAATACTC ATACTCTTCC TTTTTCAATA TTATTGAAGC ATTTATCAGG GTTATTGTCT 5280
CATGAGCGGA TACATATTTG AATGTATTA GAAAAATAAA CAAATAGGGG TTCCGCGCAC 5340
ATTTCCCCGA AAAGTGCCAC 5360

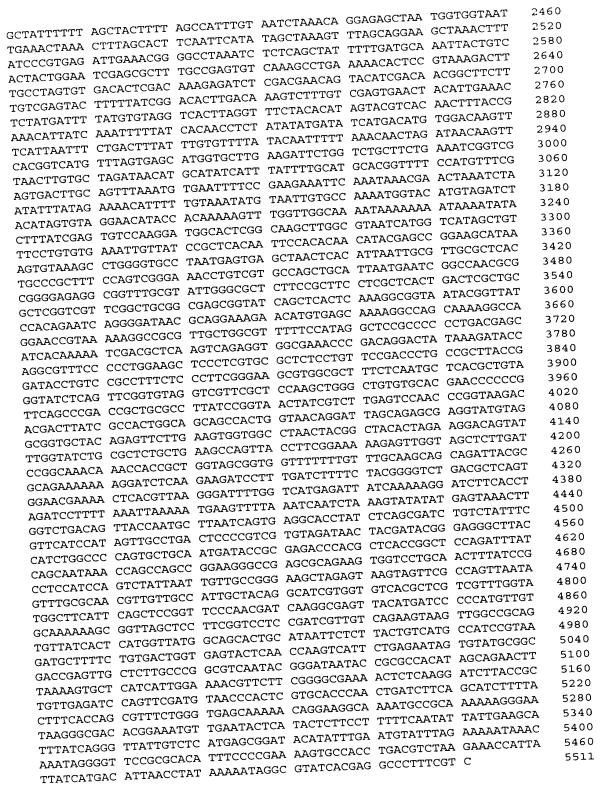
(2) INFORMATION FOR SEQ ID NO:4:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5511 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Other
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

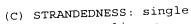
(XI) BEQUEETE	60
TCGCGCGTTT CGGTGATGAC GGTGAAAACC TCTGACACAT GCAGCTCCCG GAGACGGTCA TCGCGCGCTTT CGGTGATGAC GGCGGAGCA GACAAGCCCG TCAGGGCGCG TCAGCGGGTG	120
TCGCGCGTTT CGGTGATGAC GGTGAAAACC TCTGACACAT GCAGCTCGGGTG CAGCTTGTCT GTAAGCGGAT GCCGGGAGCA GACAAGCCCG TCAGGGGCGC TCAGGAGTGC CAGCTTGTCT GTAAGCGGAT GCCGGAGCA GCAGATTGTA CTGAGAGTGC	180
CAGCTTGTCT GTAAGCGGAT GCCGGGAGCA GACAAGCCCG TCAGGATTGTA CTGAGAGTGC TTGGCGGGTG TCGGGGGCTGG CTTAACTATG CGGCATCAGA GCAGATTGTA CTGAGAGTGC TTGGCGGGTG TCGGGGGCTGG CTTAACTATG CGGTAAGGAG AAAATACCGC ATCAGGCGCC	240
TTGGCGGGTG TCGGGGCTGG CTTAACTATG CGGCATCAGA GCAGATTCGC ATCAGGCGCC ACCATATGCG GTGTGAAATA CCGCACAGAT GCGTAAGGAG AAAATACCGC ATCAGGCGCC ACCATATGCG GTGTGAAATA CCGCACAGAT GCGTAAGGAG AAAATACCGC ATCAGGCGCTAT	300
ACCATATGCG GTGTGAAATA CCGCACAGAT GCGTAAGGAG AAATTAGCATATGCG GTGTGCGCCATT CAGGCTGCGC AACTGTTGGG AAGGGCGATT GGTGCGGGC TCTTCGCTAT ATTCGCCATT CAGGCTGCTG CAAGGCGATT AAGTTGGGTA ACGCCAGGGT	360
ATTCGCCATT CAGGCTGCGC AACTGTTGGG AAGGGCGATC GGTGCGGTA ACGCCAGGGT TACGCCAGCT GGCGAAAGGG GGATGTGCTG CAAGGCGATT AAGTTGGGTA ACGCCAGGGT TACGCCAGCT GGCGAAAGGG GCAGTGAATT CTTTTATGAA TAATAATAAT	420
TACGCCAGCT GGCGAAAGGG GGATGTGCTG CAAGGCGATT AAGTTGGAA TAATAATAAT TTTCCCAGTC ACGACGTTGT AAAACGACGG CCAGTGAATT CTTTTATGAA TAATAATAAT CTCCCAGTC ACGACGTTGT AAAACGACGA AGGGCTTCTC CGCCATAACA AATTGAGTTG	480
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CAAAATTATC TTCTAATTTT AAAAGCTACA TATTAAAAAT ACTAAGGATG GGCTATATTT CGAGATCATT GCTTGGGATG GGCAGGGCCA ATAGCTAATT GCTAAGGATG GTGTTCGTAC	1020
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CCCCTCCTGT TTGAGCCTAG CGATGAAGGG	1140
TTCGTCTGCT GTGTCTGTTC ICAGCGTTATT	1200
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TCCCTCAGTA GCTTACAGCA ICGIACCOSTA CACCA TATATACATA CACGTCCAAC	1320
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CTCTCCACTC AGGCTCATGC TACGTACGCT TACGCCACTAA GGGATGTGAG	1440
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CTTCTTGGCG CCTTTGACTT IGCAMACGTT	1800
CCAACTCTTG CCTTCTACTI GCACCIOITO	1860
CATCACACC TTGAGGCCCT IGCIGGIGGG AAAGCGGAGGT GGCGCGCATT	1920
CCTGTGTGTT GGATCCTTGG GIIGGCIGIII 1 TOTAL GGTGGG GGTACGTGGA GGAAGGCTGC	1980
TATACCAGCG CCGGGCCCTG GIACGIGGCS TO THE CONTINUE GCTTACCGT GCTTATCCGG	2040
GTGGCAGCAG ACACACGGGI CGCCACGIO	2100
GCTCCGGCTC GGTGCACGCC AGGGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGT	2160
ACTGGTGTCG TGTTCCGGGG ACICCOATO	2220
CCTACTAGGT ACGTTCATTG TATCTGGACG TAATTGTAAT TCAACAAATA	2280
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- (2) INFORMATION FOR SEQ ID NO:5:
- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 5115 base pairs
 - (B) TYPE: nucleic acid



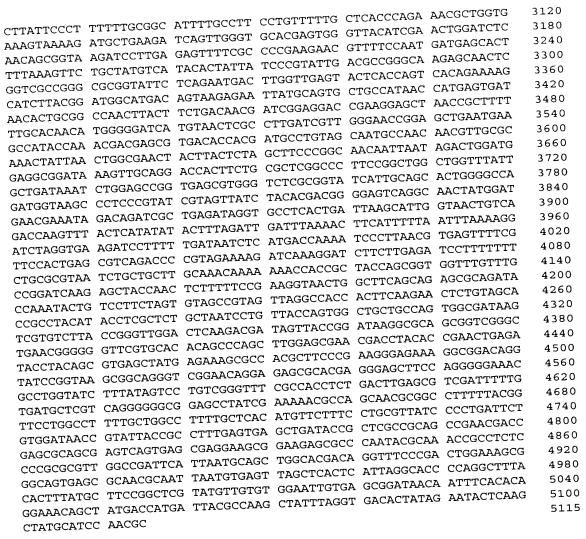


(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Other

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

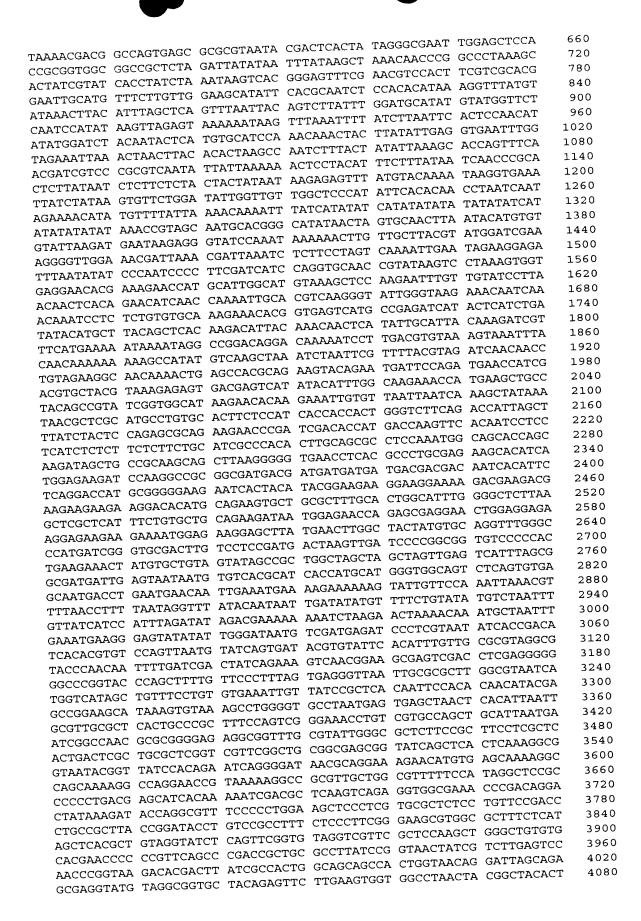
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CTTOCTORGE ACCTOTCOGG CTTOTTOTA TGGASCTGAC ATGGTTGAG CAGGCTTAAA 300	CCCTCGAGGI CGACGGICC CGCGACGTCG GGACACATCT TCTTCCCCCCT TTTGGTGAAG	:
ATTECTEGE AGAGGAGGA TACCAGCACA GACTTGCC GATTCTCTC GATGGAGT 420	TTACACAGCC CGCTGTCCGG CTCCTTGGAC GTTCGTGTGG CAGATTCATC TGTTGTCTCG	
ATTIGETEGT A GACGAGGAG TACCACCACA GACGTTGGT CGCGTCGCT CGCATCCGGT GATGCGTG GCAACAGTCTA GGATTGTCA CACCACAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGA	TCTCTGCTCGC AGCTGTGTGTAG TGGAGCTGAC ATGGTCTGAG CAGGCTTAAA	
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GRIGARGTIGA AGCCGCCGACC CGGGCCGCCCCCCCCCCCCCCCCC	GTGAGCAGAG CAGCAACACACACAGAGAG CGGAGAGCGA GCCGTGCACG GGGAGGTGGT	_
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GTGGCGAGGC CGGCGCAGCAGCAGCAGCCAGCCAGCCCCCCCC	AAGGCGAGGC AGCCCCCGAT OFFI	_
CCCCCCCCCC GGGGGCTAGA ATTACCAGAG CACACCCGC CGACAGCCGC ATCCATCCGC CGACAGCCGC CGACAGCCGC CGACAGCCGC CGACAGCCGC CACAGCCGCACACCGCC CACAGCCGCC AGTGAAGGGG GACAAGTGCACCGC CGACAGCGCC GGCAGGGCGC CTCATCTCTCT CGACAGACAC GTTCTTTCCTCTC CGACCACACCGC GTCATCTCTCT CGACAGACCACCGC GTCATCTCTCT CGACAGACCACCGC GTCATCTCTCT CGACAGACCACCGC GTCATCTCTCT CGACAGACCACCGC GTCATCTCTCT CGACAGACCACCACCACCACCACCACCACCACCACCACCA	GTCGCTGGTG CGCAGTGCCG GGCGCGGCCG GGTCACGCAA CGCGCCCCAC GTACTGCCCT	-
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CAGGAGGAAG GAATAAACTC ACTGCCAGC GTCAGGGGTG CTCATCTCTC GACCAGTGCG CGCACCGCC GGCAGGGGTG CTCATCTCTCT GATCCAGATC GATCCTGTCC TTGAGTTTCG TCCAGATCCT GGGGGGTATC TGCGTGTTTG ATGATCCAGG TTCTTCGAAC CTAAATCTGT CCGTGCCACACACACACACACACACACACACACACACACA	CCCCCTCCGC GCGCGCTAGA 121111111111111111111111111111111111	
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GCAGTGGATT TATACTGGG TTGGTTCTC GAACAGGTGC CCCTGGGAAG GAAGTGCTAC AACCTTTGCA AAGCTAAAGG GCGCCAAGAAG CCCCAAGAAG GCGCCTGCAA GTGTAAGCTG CCCTTGGTC CAACTCAGAT GAACCAGACA CCCTTGGTC CAACTCAGAT GAACCAGACA CCCTTGGTC CAACTCAGAT TGACTACATG TGACAAATT TGGTAAACTT TGGGAAAATT TGGTAAACTT TGGGCCCA AGTTCGACGC GTGTAAGCTG TGACTCACTG TGACTACTG TGACTACATG TGACTACATG TGACTCACTG TGACTCACTG TGACTACTG TGACTACTG TGACTACATG GTCACCCC GGGCCCCT TTCCCATGTT TGACACCCC GAACTCAGAT TTCGCAACTC TTCCACTGT TTCGCTTATG TGATATGGAC GTGTAGCCC GTGTGCAAA GTTCGCCCT TTCCACTGT TTCGCTTATG TGATATGGAC TAATTTCCCC TTCCACTGT TTCCCACTC TTCCACTGC GAACTCACACA AACTCTACTT ACGTTACCC GTGTGCCAAA ACCTTATTAA GCCCATGGACA CCGGGCCCAAAAAACCAA TATATCCCT TTCCACACCAA AGCCCCCAAAAACCAA TACTCTCCC GCCCAAGAACA CCCCAAAACCAA ACCTTACCC CCGGTGAAAT ACCCTTCTCT TTCCACACCAA AGCTCTCCC TTCCCACTCC TTCCACTC TTCCACACCAA AGCCCCACAAAA AGCTCTCCC CCAGACCAAA AGCTCTCCC CCAGACCAAA AGCTCTCCC CCAAAACCAA TACTCCCC CCAGACCAAA AGCTCTCCC CCAAAACCAA CCCACAAAA CCTTCCCCC CCAAAACCAA CCCACAAAA CCTTCCCCC CCAAAACCAA CCCAAAACCAA TACTCCCC CCAAAACCAA CCCACAAAA CCTTCCCCC CCAAAACCAA CCCACACAAA AGCTCCCC CCAAAACCAA CCCACAAAA CCCCCACAAAA CCCCCACAAAA CCCCCACACAAA ACCCTTCCC CCAAAACCAA CCCCAAAACCAC TACTCCCC CCCAGCCAC AAAACCAT TCCCCCCATTCC CCCCTTTGT TCCCAACCCCA CCCAAAACCAC TACTCCCC CCCCAACACAAA CCCCCAAAACCAC TACTCCCC CCCAGCCAC CCCAAAACCAC TACTCCCC CCCAGCCAC CCCCAAAACCAC TCCCCCTTCT CCCCCTTTCT CCCCCTTTCCT CCCCCTTTCCC CCCCTTTCCCC CCCCTTTCCCC CCCAGCCAC CCCAAAACCAC TACTCCCC CCCAGCCAC CCCCAAAACCAC TCCCCTTCT CCCCCTTTCCC CCCCTTTCCCC CCCCAGCCAC CCCAAAACCAC TCCCCTTCT CCCCCTTTCCC CCCCTTTCCCC CCCCTTTCCCC CCCCAGCCCC CCCAGCCCC CCCAGCCCC CCCCAGCACA ACCCCTCC CCCCCTTCCC CCCCCTTCCC CCCCCTTCT CCCCCC	GATCCGATCC GATCCTGCAAC CTAAATCTGT CCGTGCACAC GTCTTTTCTC TCTCTCCTAC	
TTATACTGGG GTTGGTTCTC GAACAGGIGC AAGTCAAAGG CGCCAAGAAG CTTTGCAG 1500 CCCTGGGAAG GAAGTGCTAC AACCTTTGCA AAGTCAAAGG GAAAATGCCC GCGTCTGCAA GTGTAAGCTG ACTAGTAGCG GAAAATGCCC CCCTTGTGTC CAACTCAGAT GAACCAGACA GCGTCAAGTA TTGCAACTTG GGGTGTAGGG 1620 CCCTTGTGTC CAACTCAGAT GAACCAGACA CTGCTGACGA TTGCAACTTG GGGTGTAGGG 1620 CTTCCATGTG TGACTACATG GTCAACGCAG TTGCTGAACGA TTGCAACTTG GGGTGTAGG 1620 TTAGTGCCTA AGTTCGACGT CGGGCCCTCT AGATGCTGCC CGGGTGAAGA GTTCGCCCTG 1800 CTGCGTTATG TGATATGGAC AACTTAGTAG AACTTTTTA TATATGCTG TTGCAACTG GATCATGCC CGGGCCCTCT AGATGCTTGCTTGTTATTGCTTATTGCTTATTGCTTATTTTCTCTCT CTGAACTG GTGTGTAATAAA GCGCATGAAC TTTTCTCTCTC CTGAACACG GTTCTTATCG GTAATTAAA GCGCATGAAC TTTTCAACAAAA ACCTAATAA CCAAAACCAT CCAAAAACCAT TATATACGAA AACCTATGCC GAACACACAC CCAAAAACCAT TATATAGACAA TATAAACACA TATAAACACA TATAACACA TATAACACA TATAACACA TATAAACACA TATACGGTTG AACCAACTTA CCAAAAACCAT CAGAATCAA AAACCTATAC CAGAACCAC CCAAAAACCAT CAGAATCAA AAACCATCC CCAAAAACCAT CAGAATCAA AAACCAT CAGAATCAA AAACCATC CAGAACACAC CCCAAAAACCAT CAGAACTACA CAGACCACACA AACCACTCC CAGACCACACA AACCACTC CAGAACACAC CCCAAAAACCAT CAGAATCAAC TATAAACACA TATACACAA TATCCCTCA CAGACCACACACACAC CAGACACACAC CAGACCACACACA	ATGATCCAGG TICTICGAAC GUCACCAGCA AGGGCCTCAA GGGTGTGATG GTGTGTTTAC	
CCCTGGGAAG GAGTGCTAC ACCTTTGCA ACTAGTAGCG GAAAGTCTC CCCAAATTG 1560 CCGTCTGCAA GTGTAAGCTG ACTAGTAGCG GAACCAGACA CCGTCAAGTA TTGCAACTTG GGGTGTAGGG 1620 CTCCATGTG TGACTACATG GTCAACGCAG CTCACAGCAG CTGCTGAAAATTG TGACACACAG TTGGAAAATTG TGGTGAAAATTG TGGTGAAATTG TGGTGAAATTG TGGTGCAAT TTGGAACATG CTCACATCCC 1740 TTAGTGCCTA AGTTCGACGT CGGGCCCTCT AGATGCGGCC CGGGTGAAGA GTTCGCCCTG 1800 CAGGGCCCCT GATCTCGCG GTGGTGAAA GATGTTGGGA CTAGTGGTGG CAACCTAATAA GAGTGCTGC CGGGTGAAGA GTTCGCCCTG 1800 CAGGGCCCCT GATCTCGCG GTGGTGAAA GATGTTGGGA CCAGTGGCAC AACCTAATAA GAGTGCTGC CGGGTGAAGA GTTCGCCTTG TATATTGCTG CTCACATCCC 1740 CTGATATGCGA CGGGCCCTCT AGATGCGGC CGGGTGAACA GATCTTCTTA TATATGCTGT 1800 CTAGTGTGGAAAAACACA TATATATGCGA GAACCATAAAA GAGATGCTGC CGGGTGAACA CGCATGAAC GGCATGAAC TAATTACTGT GCGTGTAGT 1920 AATAATCCCT GCGGAAATCA TATAAACACA AAAATTATAA TAGAGTAACAT 1920 GTTCCAAAAG GACCATAGC CAAAAACAA CGTGCCAAAA CGCAAAACAAA TATAAAACACA TATAAAACACA TATAAACACA AAAACAATAT TATAAACACA AAAAGTTAAA CCAAAACAAA AAAAGTTAAA CCAAAACAAA TATAAACACA AAAAGTTAAA CCCAAAACAAA AAAAGTTAAA CCAAAACACAT TATAAACACA AAAAGTTAAA CCAAAACACAT CCACAACACAC CCCTTTTGT TCCGGCTTCT TAGAGTCCC CACAGCCAGAT TACGGAACACAC TACCGCAAAAACAA AAAAGTTAAA CCAAAACACAT TATAAACACA AAAAGTTAAA CCCCAAAACACA CCCCCTTTTG TCCACACCCC AAAACCAC TACCAAACACAC CCCCTTTTGTA TACCACACACAC CCCCTTTTGTA TCCACACCCC AAACCACAC CCCCTTTTGTA TCCACACCCC AAACCACAC CCCCTTTTGTA TCCACACCCC AAACCACAC CCCCTTTTTGTA TCCACACCCC AAACCACAC CCCCTTTTGTA TCCACACCCCC AACCCCTAT TCCACACCCCC AAACCACAC CCCCTTTTGTA TCCACACCCCC AAACCACT TCCACACCCCC TCCACCACCACAC CCCCTTTTGTA TCCACACCCCC AAACCACT TCCACACCCCT TCCACACCCCC AACCCCCT TCCACACCCCC TTCCACACCCCC CCCCTTTTG TCCACACCCCC TCCACACCCC CCCCTTTTC TCCACACCCCC TCCACACCCC TTCCACCCC CCCCCCCC	GCAGTGGATT AATCGCCATC GGACAGGTGC AAGTAGAAGG CAAGAGTTGC TGCAAGAGTA	_
GCGTCTGCAA GTGTAAGCTG ACTAGTAGCTG GAACCAGACA CCGTCAAGTA TTGCAACTTG GGGTGTAGGG GTCCCTTGTGT TGACTACATG GTCAACCAGACA CGCGCAGGAAAATG TGGCAAAATTG TGGTGATCCT TGTGTCAATT TGTGCAACTG GTGAAAATTG TGGTGAACCAGAC CGGGCCCTCT AGATGCGGC CGGGTGAAGA GTTCGCCCTG 1800 CAGGGCCCCT GATCTCGCAACCAG TGATGTGGCA AGATGTGGCAAAAAAAATATT TATATGCTGT 1860 CTCACATCCC 1740 CTGCAAACCAGAC GTGTGCAAACCAGA GTTCGCCCTG 1800 CATCTTCATTA TATATGCTGT 1860 CATCTTCAATTA GAATGTGGCA AACAAATAAA GAGTGCGCC CGGGTGAAGA GTTCGCCCTG 1800 CATCTTCAATTA GAATGATACA AACAAATATA GAGTGAACACA CCCTAATAAA GAATATTAACACAA AACAACTATT TATATGCGA CATCTTCAAAACAA AACAACATT TCTAGAATCAA CACAAAAACAAA TATAAAAAAT GAGCTGATT CACAACCCCAAAAACAA GAACACACT TAGAACACA TACAAAAAAA TATAAACACA TACAAAAAAAA	TTATACTGGG GIIGGIICIC GACCTTTGCA AAGTCAAAGG CGCCAAGAAG CTTTGCGCAG	_
CCCTTGTGTC CTTCCATGTG CTTCCATGTG TGACTACATG TGCAACGCAG TGGTGACCAGAT TGGTAAAATTG TGGAAAATTG TGGAAAATTG TTGGAACATTC TGGTGAACTC TTGGTCAACTC TGGTGAACATT TGGAACATTC TGGTGAACTC TGGTGAACTC TTGGAACATT TGGGACCCTC TAGTTCGCCC GATCTCGCGC GTGTGCAAA GATGTTGGCC CTGGGCCCTCT AGATTCGCCC GTGTGCAAA GATGTTGGCC CTGGTGCACA AGATGTTGGC CTGGTGCACA AGATGTTGGC CTGATCGCCC TTCGCTTATG GTAATGGAC AACCTAATAA ACCTAATAA ACCTAATAAA ACCTAATAA ACCTCTTTTG CTCCTCTTTTG CTCCTCTTTTG CCCTGTTTG TTCCGCCTTT ACCTAAAACCA TAATACCTTC CCAAAATCAA ACCTAATAA ACCCTAAT ATTAACAAAA ACCTAATAA ACCTAATAAA ACCCTAATAA ACCCTAAA ACCTAAAACAA ACCTTAATAAAA ACCCTAAAAACAA ACCTTAATAAAA ACCCTAAAA ACCTAAAACAA ACCTTAATAAAA ACCCTAAAAACAA ACCTTAATAAAA ACCCTAAAAACAA ACCTTAATAAAAAAAA	CCCTGGGAAG GAAGIGCIAC ACTAGTAGCG GAAAATGCCC GAAAGGCTTC CCCAAATTGG	
TTCCATGTG TGACTACATG GTCAACGCAG TGATGCTGC CTCACATCCC TGGAAAATTGTGGAAAATTG TGTGTCAATT TCTGCAACGG TGATGCTGC CTCACATCCC 1800 TTAGTGCCTA AGTTCGACGT CGGGCCCTCT AGATGCGGC CGGGTGAAGA GTTCGCCCTG 1860 CAGGGCCCCT GATCTCGCGC GTGGTGCAAA GATGGTGC CATCTTCTA TATATGCTGT 1860 TTCGCTTATG TGATATGGAC AACTAATAA GAGTGCTTGC TTGGCTAATG TGATGTAGT TATATGCGA AGTATGTGT AACAAATAAT CGGCCATGAAAC GCGCAAAAACACAT GCGCAAAACACAT TATATTGCGA GGCCCTGTATTT TATATTGCGA AACTATATAA GGACCTGTAT TAGAGACAG CCAAAAACACAT TCTGAAAACACA AACTCCCAAAACACAC CAAAAACACA TATATAGGAA AACTCCCAAAACACAC CAAAAACACAC CAAAAACACAC CAAAAACACAC CAAAAACACAC CAAAAACACAC CGGCCACCAAA GCGCCACAAAA GCTGCTGCAAAACACAC CAAAAACACAC CAAAAACACAC CAAAACACAC CCAAAAACACAC CAAAAACACAC CAAAAACACAC CAAAACACAC CCAAAAACACAC CAAAACACAC CCACCA	GCGTCTGCAA GIGIAAGCIG MOONE GAACCAGACA CCGTCAAGTA TTGCAACTTG GGGTGTAGGG	_
TEGRAAATTG TEGTGATGCT TETTGTCAATT TETTGCGCCTTG AGATGCGGCC CGGGTGAAGA GTTCGCCCTG 1800 CAGGGCCCCT GATCTCGCGC GTGGTGCAAA GATGTTTGGA TTCGCTTATG TGATATGGAC AAGATGTGT AGATGCTTGC GTAGTGGTGG CCAGTGGCAC AACCTAATAA GCGCATGAAC TAATTGCTGT TAATTGCTGT TAATTGCGA ACCTAATAA GCGCATGAAC TAATTATATAT TAGAGTACAT TATATTCGCA GTTCTTATCG CCTTGTTTTCTCTCT CTGAATCCTA CGTGTGTGAA ACCTAATAA AGCTGCTGCG GACCCAAAA AGCTGCTGCG GACTGCAAAACCAT TAATTAGGAA TCTGTCAAAACCA TAATAACACA TAATAACACA TAATACGGTG GGCACCTAG ACCGCAAAAACCAT CCAAAAACCAT TAATGAAAAA CCAGCAAAAAACCAT CAAAAACCAT TAATGAACAC AAAAGGTTAAA AAAAGGTTAAA AAAAGGTTAAA AAAAGGTTAAA AAAAGGTAAA AAAAGGTAAAA CCAAACACT TAATGACAC AAAAACCAT CAAAACACA AAAAGGTAAA AAAAGGTAAA AAAAGGTAAA AAAAGGTAAA AAAAGGTAAA AAAAGGTAAA AAAAGGTAAA AAAAGGTAAA AAAAGGTAAA AAAAAGTAAA AAAAAGGTAAA AAAAAGGTAAA AAAAAGGTAAA AAAAAGGTAAA AAAAAGGTAAA AAAAAGGTAAA AAAAGGTAAAA AAACGAACTTA TAGAACACA TAATACACA TAATCGGGG GCACCTCG CAAAACACAC CAAAACAGAC CCAAAACAGAC CCAAAACAGAC CCACAACAGAC CCTCTTAGG GGTGCCCTTTAG GGTGCACCTG ACCGAAAAA AAAAGTTAAA AAAAGGTAAA AAAAGGTAAA AAAAGGTAAA AAAAGGTAAA AAAAGGTAAA AAAAAGGTAAA AAAAGGTAAA AAAAAGGTAAA AAAAGGTAAA AAAAGGTAAA AAAAGGTAAA AAAAGGTAAA AAAAGGTAAA AAAACGAT CAAACAACAC CAAACAACAC CAAACAACAC CAAACAAC	CCCTTGTGTC CAACTCACAT GTCAACGCAG CTGCTGACGA CGAAGAAATG AAACTCTATT	_
TTAGTGCCTA AGTTCGACGT CGGGCCCTCT AGATGCGGG CATCTCTTA TATATGCTGT 1860 CAGGGCCCCT GATCTCGCC GTGGTGCAAA AGATGTGGG CATCTCTTA TGATGTAGT 1920 GTAGTGGTGG CCAGTGGCAC AGCCTAATAA GAGCGTGCAC TAATTGCTG CGTGTGTAGT 1980 TAAGTACCGA TCGGTAATTT TATATGCGA GTAATAAAT GGACCTGTAG TGGTGGAGTA 2040 AATAATCCCT GCTGTTCGGT GTTCTTATCG GTAATAAAAAAAT CAAAAAATATA TAGAGTACAT AAAATTTCTGC 2160 GTCCAAAAA AGCCATAGC CTATCTTTGG CCCTGTTTGT TCCAGCACAA AGCCTACAAA AGCTGCCAAA AGCTGCCAAA CCAAAAACCAT CCAAAAACCAT TATAAACACA TAATCGGTTG AGCCCACAAA AAAAGTTCCT CAAAAACCAT TCTTCTCCA AACAACTTTA TCTTTCTCCA 2400 ATATTAGGAA TCTGTCACT TCTAGATCCT CACACACCCA ACCGCAAAAA AAAGTTAAAA CCAAAACAGAC CCTTTTGGTA TGCAGACCT TTCTGAGCTTC CACACACCCACAC CCCACAGACC CACAACACAC CCACAACACAC CCACAACACAC CCACAACA	CTTCCATGTG TGACTACATGCT TGTGTCAATT TCTGCAACGG TGATGCTGGC CTCACATCCC	_
CAGGGCCCT GATCTCGCC GTGTGCAAA GATGTTCC TTGTGCTAGT GTAATGTAGT 1920 TTCGCTTATG TGATATGGAC AAGTATGTT AGAGTACTTGC TTGTGCTAGT CGTGTGTAGT 1980 GTAGTGGTGG CCAGTGGCAC AACCTAATAA GCGCATGAAC TAATTGCTTG CGTGTGTAGT TAATTTCCGAAACGA TCGGTAATTT TATATTGCGA GTAATAAAT GCGCCTGTAG TGGTGGAGTA 2040 AATAATCCCT GCTGTTCCGT GTTCTTATCG CTCCTCGTAT AGATATTATA TAGAGTACAT AAATTCTCTC CTGAATCCTA CGTGTGTGAA ATTTCTATAT TCGGCTTCT GGCACCTAA AGACCATACC CCAAAATCAA TATAAACACA TAATCGGTGG GACCACAAA ACCTACCT CCAAAATCAA TATAAACACA TAATCGGTTG AACCACTACC CAGAATCCAT TCTGAGAAAG CTGGTCAGAAA AAAAGTTAAA CCAAACAGAC CCAAAACACAT CAAACCATACC CCAAAACAGAC CCAAAACAGAC CCAAAACAGAC CCAAAACAGAC CCAAAACAGAC CCAAAACAGAC CCAAAACAGAC CCAAAACAGAC CCAAACAGAC CCAAACAGAC CCAAACAGAC CCAAACAGAC CCAAACAGAC CCAAACAGAC CCAAACAGAC CCACACGCAG ATTCTCCCAAACGAC CCACACCAGC GGCCCCTTTG TTGCACACCG ACCGCAAAAA ACTTGATTTG GAGTCCTTTG GGTGTAATCG TTTTCAGAACAG ACCGCCAAAAA ACCTGGTTG GAGTCCTTTTTCCCAAACTG ACCGCAAAAAA ACCTGGTTG GAGTCCTTTTTTCACAAACAGA ACCTGATTTTTTTTCACAACAAA ACCTGATTTTTTTTCACAACAAAA TTTTCGCCC TTTTGACGTTG GAGTCCACTTTTTTTTTAACAAAAA TATTAACGTT TACAAACTT TCGGCTTATTT AACAAAAATT TAAACGCAAT TACAACTTTT TCGGCTTATT TCGGCTTATT TCGGCTTATT TCGGCTTATT TCGGCTTTTTTTTAACAAAAA TATTAACGTT TACAACTTCG CCTGATGCG GAAAACCCT TTTTCACAACACA TACAACTTTT AACAAAAAATT TAAACGCAAT TACAACTTT AACAAAAAATT TAAACCCTGA TTTTTAACAAAAA TATTAACGTT TACAACTTTCGGC GAAAAACCCT TACAAGTGCG GAAAACCCCT TACAAGTGCG TACAAGTGCG CCGGAACCCCT TACAAGTGCG TACAAGTGCG CCGGAACCCCT TACAAGTGCG TACAAGTGCG TACAAGTGCG CCGGAACCCCT TACAAGTGCG TACAAGTGCG TACAAGTGCG CCGGAACCCCT TACAAGTGCG TACAAGTGCG TACAAGTGCG CCGGAACCCCT TACAAGTGCG TACAAG	TGGAAAATIG IGGIGATGGT CGGGCCCTCT AGATGCGGCC CGGGTGAAGA GTTCGCCCTG	
TTCGCTTATG TGATATGGAC AACTAATAA GCCCATGAAC TAATTGCTTG CGTGTGAGT 2040 TAAGTACCGA TCGGTAATTT TATATTGCGA GTAATAAAAT GGACCTGAAA TAATTCTCC GCTGTATCG CTCCTCGTAT AGATATAAA TAAATTCCCT GCTGTATCG CTCCTCGTAT AGATATATA TAGAGTACAT ATTTCTCCT CTGAATCCT CTGAATCCT CTGAACACA AGCCCAAA AGCCCAAA AGCTGCCAAA AGCTGCCAAA AGCTGCCAAA AGCTGCCAAA TAATTAGGAA TCTGTCACATT TCTAGATCCT CCAAAATCAA TATAAACACA TAATCGGTTG AAAATCACA TAATCGGTTG AAAATCACA TAATCGGTTG AAAATCACA TAATCGGTTG AAAAACACA TAATCGGTTG AAAAACACA TAATCGGTTG AAAAACACA TAATCGGTTG AAAAACACA TAATCGGTTG AAAAACACA AAAAGTTAAA CCAAAACACA CCAAACACAC CCACCTTTAG GCTTCCCTTTAG GCTTCCCC CCGCCACACAC CCCCTTTTAG GCTTCCCCTTTAATAG GCCCATCCC CCACGCCC CCACGCC CCACGCCC CCACGCCCC CCACGCCC CCACGCCC CCACGCCC CCACCCCC CCACCCCC CCACCCCC CCACCCCC	TTAGTGCCTA AGTTCGCGC GTGGTGCAAA GATGTTGGGA CATCTTCTTA TATATGCTGT	
TAGTGGTGG CCAGTGGCAC TATATAM GCCATATAM GGACCTGTAG TGGTGGAGTA TATATTGCGA GTAAATAAAT GGACCTGTAG TAGAGTACAT TATATTGCGA GTTCTTATCG CTCCTCGTAT AGATATATA TAGAGTACAT TAGAGTACAT CTCCTCGTAT AGATATATATATTCTCC GTGTTCTCT CTGAATCCTA AGACCATAGC CTCTTTTGT TCAGCAAAA AGCTGCTGCG GACCACAAA AGCTGCCAAA CCAAAATCAA TATAAACACA TAATAGGAA TCTGTCACATA TCTGCAAAACCAT TCTAGAAAACCA TCAAAAACCAT TCAAGAAAACCAT TCAGAAAAACCAT TCAGAAAAACCAT TCAGAAAACCAT TCAGAAAACCAT TCAGAAAACCAA AAAGTTAAA CACAAAACCAT TCAGAAAAACCAA AAAAGTTAAA CCAAAACCAA CCTTTTGTGTA TGCATGGTC TCAGACCCC AACCCCCAG ACTCCCCC TTCAGAACCAC CCTTTTGTATATAG TGCACTTTG TCAGCACTTT TCAGCAACCT TCTTTAACAAAA TATTAACCTTA TACAAATTC CCTGATGG GAACACCCT TCTTTAACAAAA TATTAACGTT TACAACTTC CCTGATGCG GAAAATCCC TTCTTTAACAAAA TATTAACGTT TACAACTTC CCTGATGCG GAAAATCCC CTGATGCG GAAAATCCC CCTGATGCC CCTGATGCC TTCTTTAACAAAA TATTAACGTT TACAAATTC CCTGATGCG GAAAATCCC CCTGATGCC CCTGATGCC CCGGAACCCCT TTCTCGC TTCATGAGACA ATAACCCTGA 3000	CAGGGCCCCT GATCTCGGAC AAGTATGTGT AGATGCTTGC TTGTGCTAGT GTAATGTAGT	
TAAGTACCGA TCGGTAATTT TATAITGCGA GIAAATTA AGAGTACAT 2100 AATAATCCCT GCTGTTCGGT GTTCTATCG CTCCTCGTAT AGATATTATA TAGAGTACAT 2160 TTTTCTCTCT CTGAATCCTA CGTGTGAA ATTTCTATAT CATTACTGT GCCAGATAGC CTATCTTTGG CCCTGTTGT TTCGGCTTCT GGCAGCTTCT 2220 GGCCACCAAA AGCTGCTGCG GACTGCCAAA CGCTCAGATT TTCAGCTAGC TTCTATAAAA 2280 TTAGTTGGGG CAAAAACCAT CCAAAATCAA TATAAACACA TAATCGGTTG AGTCGTTGTA TCTTTCTCCA AACAACTTTA TCTTTCTCCA CAGCCAGATT TCTAGAACAC TAATCGGTTG AACAACTTTA TCTTTCTCCA CAGCCAGATT TCAGAAAAG CTGGTCAGAA AAAAGTTAAA CCAAACACAC CCAAAACAGAC CCTTTTGTGTA TGCATGGATC 2520 TTCAGAAAAG CTGGTCAGAA AAAAGTTAAA CCAAACAGAC CCTTTTGTGTA TGCATGGATC 2580 GGCTTTCCCC GTCAAGCTCT AACACCTTG GAGTCCACGT TCTTTAATAG GCCATCTGCC CACGCAGATT TCTTTAACAAAA TTTTTCGCCC TTTTGACTTT TCGGCTTATT TTTTTAACAAAA TATTAACGTT TACAATTTCG CCTGATGCG GAAAACACT TAATCGCAACCT TTTTTAACAAAA TATTAACGTT TACAATTTCG CCTGTATTCGCG GAAAACCCT TTTTCCCA CAGCCAGAT TAAACACAT TAAACACAT TAAACGCAAT TAAACACAT TAAACGCAAT TTTTTCTCC CACGCAAACA CCTGTTATT TCGGCTTATT TTTTTTTTCTCC TTTTTTTTTT	TTCGCTTATG TGATATOGAS TAACCTAATAA GCGCATGAAC TAATTGCTTG CGTGTGTAGT	
AATAATCCCT GCTGTTCGGT GTTCTTATCG CTGTTATCG CTGTTATCG CTGTTATCG CTGTTATCG CTGTTATCG CTGAATCCTA CGTGTGAA ATTTCTATAT CATTACTGTA AAATTTCTGC 2220 GTTCCAAAAG AGACCATAGC CTATCTTTGG CCCTGTTTGT TTCGGCTTCT GGCAGCTTCT 2220 GGCCACCAAA AGCTGCTGCG GACTGCCAAA CGCTCAGATT TTCAGCTAGC TTCTATAAAA 2280 TTAGTTGGGG CAAAAACCAT CCAAAATCAA TATAAACACA TAATCGGTTG AGTCGTTGTA 2340 ATATTAGGAA TCTGTCACTT TCTAGATCCT GAGCCCTATG AACAACTTTA TCTTTCTCCA 2400 ATATTAGGAA CTGGTCAGAA AAAAGTTAAA CCAAACAGAC CCTTTGTGTA TCGACAGGAT 2460 TTCAGAAAAG CTGGTCAGAA AAAAGTTAAA CCAAACAGAC CCTTTGTGTA TGCATGGATC 2520 CGGCACCTCG GTCAAGCTCT AAATCGGGGG CTCCCTTTAG GGTTCCGATT TAGAGCTTTA 2580 GGCTTCCCC GTCAAACAAA ACTTGATTTG GAGTCCACGT TCTTTAATAG TGGACTCTTG CAACCCTATC CAACCCTATC TCGGTCTATT TCTTTTAATAG TGGACTCTTG TACAACTG TTCTTAAAAAAAT TATAACGAT TACAATTTCG CCTGATGCGG TATTTCTCCC TTACGACCCT TTCTTTGATTT TAACGCGAAT 2820 TTTAACAAAA TATTAACGTT TACAATTTCG CCTGATGCGG GAAATGTCC CGGAACCCCT TTCTTCCCA 2940 GTGCGGTATT TCACACCGCA TACAGGTGGC TACATCTCCGC TCATGAGACA ATAACCCTGA 30000	GTAGTGGTGG CCAGTOGGAGTA TTT TATATTGCGA GTAAATAAAT GGACCTGTAG TGGTGGAGTA	
TTTTCTCTCT CTGAATCCTA CGTGTGTAA ATTTCTCTCT GGCAGCTTCT 2220 GTTCCAAAAG AGACCATAGC CTATCTTTGG CCCTGTTTGT TTCAGCTAGC TTCTATAAAA 2280 GGCCACCAAA AGCTGCTGCG GACTGCCAAA CGCTCAGATT TTCAGCTAGC TTCTATAAAA 2340 TTAGTTGGGG CAAAAACCAT CCAAAATCAA TATAAACACA TAATCGGTTG AGTCGTTGTA 2400 ATATTAGGAA TCTGTCACTT TCTAGATCCT CAGACCAGC CCAAACCTTA TCTTCTCCA 2400 TTCAGAAAAG CTGGTCAGAA AAAAGTTAAA CCAAACCAGC CCTTTGTGTA TGCATGGATC 2520 TTCAGAAAAG CTGGTCAGAA AAAAGTTAAA CCAAACAGAC CCTTTGTGTA TGCATGGATC 2580 GGCTTTCCCC GTCAAGCTCT AAATCGGGGG CTCCCTTTAG GGTTCCGATT TAGAGCTTTA 2580 TGGTAGACGG TTTTTCGCC TTTTGACGTTG GAGTCCACGT TCTTTAATAG TGGACTCTTG 2700 TTCCAAACTG GAACAACACT CAACCCTATC CAACCCTATC TCGGTCTATT TTTTGATTT ATAAGGGATT 2760 TTTCCAAACTG GAACAACACT CAACCCTATC CCTGATGCGG TATTTCTCC TTACCGCATCT TACAACTGT TACAATTTCG CCTGATGCGG GAAATGTGCG CCGGAACCCCT TTTTCCCA 2880 GTGCGGTATT TCACACCGCA TACAGGTGGC TACATGTCGC TCATGAGACA ATAACCCTGA 30000	TAAGTACCGA TCGGTAATTT TATCG CTCCTCGTAT AGATATTATA TAGAGTACAT	_
GTTCCAAAAG AGACCATAGC CTATCTITGG CCCCTAGATT TTCAGCTAGC TTCTATAAAA 2340 GGCCACCAAA AGCTGCTGCG GACTGCCAAA CGCTCAGATT TTCAGCTAGC TTCTATAAAA 2340 TTAGTTGGGG CAAAAACCAT CCAAAATCAA TATAAACACA TAATCGGTTG AGTCGTTGTA 2400 ATATTAGGAA TCTGTCACTT TCTAGATCCT CAGACCCAGA ATTCTCCTCA CAGCCAGATT TCTAGAAAAG CTGGTCAGAA AAAAGTTAAA CCAAACAGAC CCTTTGTGTA TGCATGGATC 2520 TTCAGAAAAG CTGGTCAGAA AAAAGTTAAA CCAAACAGAC CCTTTGTGTA TGCATGGATC 2580 GGCTTTCCCC GTCAAGCTCT AAATCGGGGG CTCCCTTTAG GGTTCCGATT TAGAGCTTTA 2580 TGATAGACGG TTTTTCGCC TTTTGACGTTG GAGTCCACGT TCTTTAATAG TGGACTCTTG 2700 TTCCAAACTG GAACAACACT CAACCCTATC CAACCCTATC TCGGTCTATT CTTTTGATTT ATAAGGGAAT TAAAGGGATT TTTGCCGATTT CGGCCTATTG GAGCTGATT TACAATATT TAACGCGAAT TACAATTTCG CCTGATGCGG GAAATGTGCG CGGAACCCCT TTTTCCCA ACCGCAACA TACAAGTTCGC TTCATGAGACA ATAACCCTGA 3000	AATAATCCCT GCTGTTCGG CGTGTGTGAA ATTTCTATAT CATTACTGTA AAATTTCTGC	_
GGCCACCAAA AGCTGCTGCG GACTGCCAAA CGTCACAAA CGTCGTCTAAAAAAAAAA	TTTTCTCTCT CIGAATCOTT	
TTAGTTGGGG CAAAAACCAT CCAAAATCAA TATAATCACA ACAACTTTA TCTTTCTCCA 2400 ATATTAGGAA TCTGTCACTT TCTAGATCCT GAGCCCTATG AACAACTTTA TCTTTCTCCA 2460 TTACGTAATCG TAATGATACT CAGATTCTCT CCACAGCCAG ATTCTCCTCA CAGCCAGATT 2520 TTCAGAAAAG CTGGTCAGAA AAAAGTTAAA CCAAACAGAC CCTTTGTGTA TGCATGGATC 2520 GGCTTTCCCC GTCAAGCTCT AAATCGGGGG CTCCCTTTAG GGTTCCGATT TAGAGCTTTA 2580 CGGCACCTCG ACCGCAAAAA ACTTGATTTG GGTGATGGTC CACGTAGTGG GCCATCGCCC 2640 TTGATAGACGG TTTTTCGCCC TTTTGACCTTT TCGGTCTATT CTTTTTAATAG TGACCTCTTG TAACAAAATTT TAACGCGAAT 2760 TTTCCAAACTG GAACAACACT CAACCCTATC CTGGTCTATT CTTTTGATTT TAACGCGAAT 2820 TTTTAACAAAA TATTAACGTT TACAATTTCG CCTGATGCGG GAAATGTGCG CGGAACCCCT 2940 GTGCGGTATT TCACACCGCA TACAGGTGGC TACATGTGCG TCATGAGACA ATAACCCTGA 3000	GTTCCAAAAG AGACCITATO	
ATATTAGGAA TCTGTCACTT TCTAGATCCT GAGGCCAG ATTCTCCTCA CAGCCAGATT 2460 TACGTAATCG TAATGATACT CAGATTCTCT CCACAGCCAG ATTCTCCTCA CAGCCAGATT 2520 TTCAGAAAAG CTGGTCAGAA AAAAGTTAAA CCAAACAGAC CCTTTGTGTA TGCATGGATC 2580 GGCTTTCCCC GTCAAGCTCT AAATCGGGGG CTCCCTTTAG GGTTCCGATT TAGAGCTTTA 2580 CGGCACCTCG ACCGCAAAAA ACTTGATTTG GGTGATGGTG CACGTAGTGG GCCATCGCCC 2640 TTGATAGACGG TTTTTCGCCC TTTGACCTTG GAGTCCACGT TCTTTAATAG TGGACTCTTG 2700 TTCCAAACTG GAACAACACT CAACCCTATC TCGGTCTATT CTTTTGATTT ATAAGGGATT TTTGCCGATTT CGGCCTATTG GAGCTGATTT AACAAATATT TAACGCGAAT 2820 TTTAACAAAA TATTAACGTT TACAATTTCG CCTGATGCGG GAAATGTGCG CGGAACCCCT 2940 GTGCGGTATT TCACACCGCA TCATGAGACA ATAACCCTGA 3000	GGCCACCAAA AGCIGCIGGIGGIA	-
TACGTAATCG TAATGATACT CAGATTCTO CAGATTCTCCC GTCAAGCTCT AAATCGGGGG CTCCCTTTAG GGTTCCGATT TAGAGCTTTA CAGACTCTC CAGCCAAAAA ACTTGATTTG GGTGATGGTT CACGTAGTGG GCCATCGCCC CAGCCCTATC CTTTTAATAG TGGACTCTTG CTTTTAATAG TGGACTCTTG CTTTTAATAG TGGACTCTTG CTTTTAACGAAT CAGCCTATC CTTTTGATTT ATAAGGGATT CTTTCCAAACTG GAACACACT CAACCCTATC CTGGTCTATT CTTTTGATTT TAACGCGAAT CTTTAACAAAAA TATTAACGTT TACAATTTCG CCTGATGCGG TATTTCTCC TACCGCATCT CCTGATGCGG GAAATGTGCG CGGAACCCCT CCTGATGCGG TACAGGTGGC ACTTTTCGGG GAAATGTGCG CGGAACCCCT CAGCCTGATCT CCTTTTCGGG GAAATGTGCG CGGAACCCCT CAGCCTGATCT CCTTTTCGGG GAAATGTGCG CGGAACCCCT CACGCGAACCCCT CACACCCTGA CCTTTTCGGG GAAATGTGCG CGGAACCCCT CACACCCTGA CCTTTTCGGG GAAATGTGCG CGGAACCCCT CACACCCTGA CCTTTTCGGG GAAATGTGCG CTTCATGAGACA ATAACCCTGA 3000	TTAGTTGGGG CAAAAACCTT TCTAGATCCT GAGCCCTATG AACAACTTTA TCTTTCTCCA	
TTCAGAAAAG CTGGTCAGAA AAAAGTTAAA CCAACTTAG GGTTCCGATT TAGAGCTTTA 2580 GGCTTTCCCC GTCAAGCTCT AAATCGGGGG CTCCCTTTAG GGTTCCGATT TAGAGCTCT 2640 CGGCACCTCG ACCGCAAAAA ACTTGATTTG GGTGATGGTT CACGTAGTGG GCCATCGCCC 2640 TGATAGACGG TTTTTCGCCC TTTGACGTTG GAGTCCACGT TCTTTAATAG TGGACTCTTG 2700 TTCCAAACTG GAACAACACT CAACCCTATC TCGGTCTATT CTTTTGATTT ATAAGGGATT 2760 TTTGCCGATTT CGGCCTATTG GTTAAAAAAT GAGCTGATTT AACAAATATT TAACGCGAAT 2820 TTTAACAAAA TATTAACGTT TACAATTTCG CCTGATGCGG TATTTTCTCC TTACGCATCT 2880 GTGCGGTATT TCACACCGCA TACAGGTGGC ACTTTTCGGG GAAATGTGCG CGGAACCCCT 2940 GTGCGGTATT TCACACCGCA TACAGGTGGC ACTTTTCGGC TCATGAGACA ATAACCCTGA 3000	ATATTAGGAA TOTGLEACT CAGATTCTCT CCACAGCCAG ATTCTCCTCA CAGCCAGATT	
GGCTTTCCCC GTCAAGCTCT AAATCGGGGG CTCCCTTTTCCCCC CGCAAAAA ACTTGATTTG GGTGATGGTT CACGAACTGT TCTTTAATAG TGGACTCTTG 2700 TGATAGACGG TTTTTCGCCC TTTGACGTTG GAGTCCACGT TCTTTAATAG TGGACTCTTG 2760 TTCCAAACTG GAACAACACT CAACCCTATC TCGGTCTATT CTTTTGATTT ATAAGGGATT TTGCCGATTT CGGCCTATTG GTTAAAAAAAT GAGCTGATTT AACAAATATT TAACGCGAAT 2820 TTTAACAAAA TATTAACGTT TACAATTTCG CCTGATGCGG TATTTCTCC TTACGCATCT 2940 GTGCGGTATT TCACACCGCA TACAGGTGGC ACTTTTCGGG GAAATGTGCG CGGAACCCCT 3000	TACGTAATCG TAATGATTAAA CCAAACAGAC CCTTTGTGTA TGCATGGATC	
CGGCACCTCG ACCGCAAAAA ACTTGATTIG GGTGATGGT TCTTTAATAG TGGACTCTTG 2700 TGATAGACGG TTTTTCGCCC TTTGACGTTG GAGTCCACGT TCTTTAATAG TGGACTCTTG 2760 TTCCAAACTG GAACAACACT CAACCCTATC TCGGTCTATT CTTTTGATTT ATAACGCGAAT 2820 TTGCCGATTT CGGCCTATTG GTTAAAAAAAT GAGCTGATTT AACAAATATT TAACGCGAAT 2880 TTTAACAAAA TATTAACGTT TACAATTTCG CCTGATGCGG TATTTTCTCC TTACGCATCT 2940 GTGCGGTATT TCACACCGCA TACAGGTGGC ACTTTTCGGG GAAATGTGCG CGGAACCCCT 3000	TTCAGAAAAG CTGGTCTOTT AAATCGGGGG CTCCCTTTAG GGTTCCGATT TAGAGCTTA	
TGATAGACGG TTTTTCGCCC TTTGACGITG GAGTCCTATT CTTTTGATTT ATAAGGGATT 2760 TTCCAAACTG GAACAACACT CAACCCTATC TCGGTCTATT CTTTTGATTT ATAAGGGATT 2820 TTGCCGATTT CGGCCTATTG GTTAAAAAAT GAGCTGATTT AACAAATATT TAACGCGAAT 2880 TTTAACAAAA TATTAACGTT TACAATTTCG CCTGATGCGG TATTTTCTCC TTACGCATCT 2940 GTGCGGTATT TCACACCGCA TACAGGTGGC ACTTTTCGGG GAAATGTGCG CGGAACCCCT 3000	GGCTTTCCCC GTCAACCTCT ACTTGATTTG GGTGATGGTT CACGTAGTGG GCCATCGCCC	
TTCCAAACTG GAACAACACT CAACCCTATC TCGGTGTTT AACAAATATT TAACGCGAAT 2820 TTGCCGATTT CGGCCTATTG GTTAAAAAAT GAGCTGATTT AACAAATATT TAACGCGAAT 2880 TTTAACAAAA TATTAACGTT TACAATTTCG CCTGATGCGG TATTTTCTCC TTACGCATCT 2940 GTGCGGTATT TCACACCGCA TACAGGTGGC ACTTTTCGGG GAAATGTGCG CGGAACCCCT 3000	CGGCACCICG ACCOCUMACA TTTTGACGTTG GAGTCCACGT TCTTTAATAG TGGACTCTTG	
TTGCCGATTT CGGCCTATTG GTTAAAAAAT GAGCTCTC TACGCATCT 2880 TTTAACAAAA TATTAACGTT TACAATTTCG CCTGATGCGG TATTTTCTCC TTACGCATCT 2940 GTGCGGTATT TCACACCGCA TACAGGTGGC ACTTTTCGGG GAAATGTGCG CGGAACCCCT 3000	TGATAGACGG TITTICGGGG CAACCCTATC TCGGTCTATT CTTTTGATTT ATAAGGGAIT	
TTTAACAAAA TATTAACGTT TACAATTICG COTATOGG GAAATGTGCG CGGAACCCCT 2940 GTGCGGTATT TCACACCGCA TACAGGTGGC ACTTTTCGGG GAAATGTGCG CGGAACCCCTGA 3000	TTCCAAACTG GAACAACAC	
GTGCGGTATT TCACACCGCA TACAGGIGGE ACTUATION ATTACCCT TCATGAGACA ATAACCCTGA 3000	TTGCCGATTT CGGCCTATTO	
ATTTGTTTAT TTTTCTAAAT ACATTCAAAT ATGTATCCGC TCATGAGACA ATAACCCTGA 3000 ATTTGTTTAT TTTTCTAAAT ACATTCAAAT ATGTATCCGC TCATGAGACA ATAACCCTGA 3000 TAAATGCTTC AATAATATTG AAAAAGGAAG AGTATGAGTA TTCAACATTT CCGTGTCGCC 3060	TTTAACAAAA TATTAACGT TACAGGTGGC ACTTTTCGGG GAAATGTGCG CGGAACCCCT	
TARATGCTTC AATAATATTG AAAAAGGAAG AGTATGAGTA TTCAACATTT CCGTGTCGCC 3000	GTGCGGTATT TCACACCGCA ATAACCCTGA	
TARATGUTTU AATAATATIO 1222	ATTTGTTTAT TITTCTAGAT ANAAAGGAAG AGTATGAGTA TTCAACATTT CCGTGTCGCC	3000
	TARATGUTTE ARTAITMES	

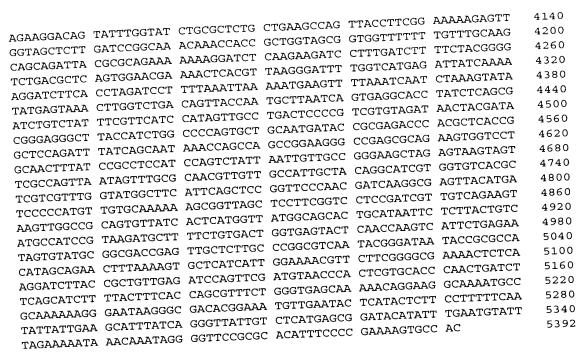


(2) INFORMATION FOR SEQ ID NO:6:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 5392 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Other
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

(A+/	D = Q =					
•				አ አ ጥጥጥጥጥር‡ ፐ ጥ	AAATCAGCTC	60
CTAAATTGTA	AGCGTTAATA	TTTTGTTAAA	ATTCGCGTTA	AATTTTTTT	AATAGACCGA	120
ATTTTTTAAC	AGCGTTAATA CAATAGGCCG	AAATCGGCAA	AATCCCTTAT	AAATCAAAA	ACGTGGACTC	180
CATACCGTTG	AGTGTTGTTC	CAGTTTGGAA	CAAGAGTCCA	CTAT TAAAGA	ACGTGGACTC AACCATCACC	240
GAIAGGGIIO	GGGCGAAAAA	CCGTCTATCA	GGGCGATGGC	CCACTACGIG	AACCATCACC CTAAAGGGAG	300
CAACGICAAA	TTTTGGGGT	CGAGGTGCCG	TAAAGCACTA	AATCGGAACC	CTAAAGGGAG AAGGGAAGAA	360
CTAATCAAGI	ACAGCTTGAC	GGGGAAAGCC	GGCGAACGTG	GCGAGAAAGG	AAGGGAAGAA GCGTAACCAC	420
CCCCCGATTI	AGAGCTTOTTA	GGGCGCTGGC	AAGTGTAGCG	GTCACGCTGC	GCGTAACCAC TCAGGCTGCG	480
AGCGAAAGGA	GCGGGGGGTA	CGCCGCTACA	GGGCGCGTCC	CATTCGCCAT	TCAGGCTGCG TGGCGAAAGG	540
CACACCCGCC	GCGCTTAATG	CCCTGCGGC	CTCTTCGCTA	TTACGCCAGC	TGGCGAAAGG CACGACGTTG	600
CAACTGTTGC	GAAGGGCAI	TAACTTGGGT	AACGCCAGGG	TTTTCCCAGT	CACGACGTTG	600
GGGATGTGCT	GCAAGGCGAT	IMMGIIGGG	•			



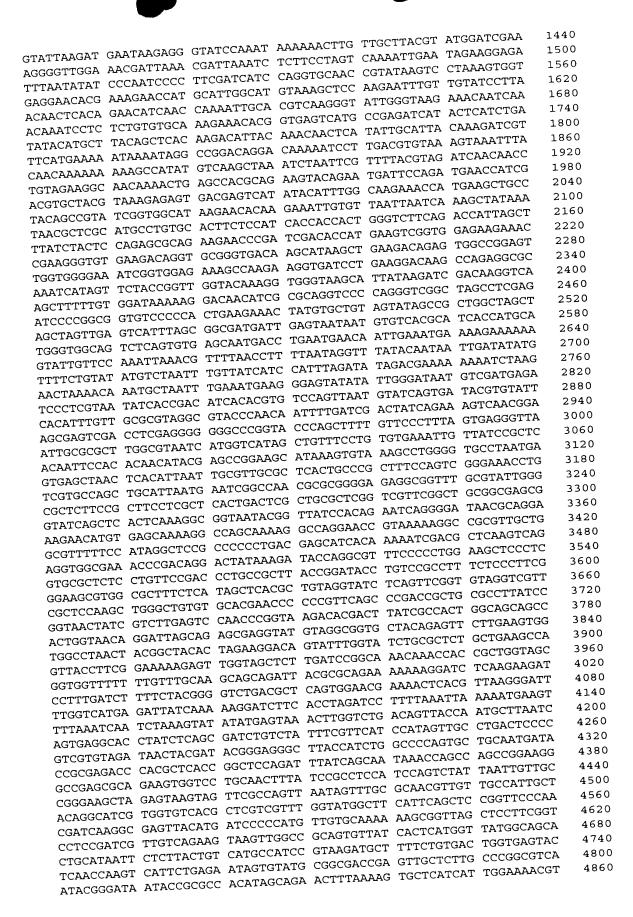


(2) INFORMATION FOR SEQ ID NO:7:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5173 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: Other
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

(X1)	D-x					60
	AGCGTTAATA	тттсттала	ATTCGCGTTA	AATTTTTGTT	AAATCAGCTC	120
CTAAATTGTA	AGCGTTAATA	1111GITTE	ΔΔTCCCTTAT	AAATCAAAAG .	AATAGACCGA	
ATTTTTTAAC	AGCGTTAATA CAATAGGCCG AGTGTTGTTC	AAATCGGCAA	CANGAGTCCA	CTATTAAAGA	ACGTGGACTC	180
GATAGGGTTG	AGTGTTGTTC	CAGTTTGGAA	CARONOTOGE	CCACTACGTG	AACCATCACC	240
CAACGTCAAA	GGGCGAAAAA	CCGTCTATCA	GGGCGAIGGC	AATCGGAACC	CTAAAGGGAG	300
CTAATCAAGT	TTTTTGGGGT	CGAGGTGCCG	TAAAGCACIA	AATCGGAACC	AAGGGAAGAA	360
CCCCCGATTT						420
Z CCCD D ACCD						480
AGCGAAAGGA	GCGGGCGCTA GCGCTTAATG	CGCCGCTACA	GGGCGCGTCC	CATTCGCCAT	TCCCGAAAGG	540
						600
CAACTGTTGG						660
GGGATGTGCT	GCAAGGCGA1	GCGCGTAATA	CGACTCACTA	TAGGGCGAAT	TGGAGCICCA	720
TAAAACGAC						780
CCGCGGTGG	GGCCGCTCTA	GALLALALA	GGGAGTTTCG	AACGTCCACT	TCGTCGCACG	, , ,
ACTATCGTA'						840
GAATTGCAT						900
ATAAACTTA	C ATTTAGCTCA	GTTTAATTAC	AGICIIAIII	ATCTTAATTC	ACTCCAACAT	960
CAATCCATA	C ATTTAGCTCA T AAGTTAGAGT	AAAAAATAA	'I'I'I'AAAIIII	TTATTGAG	GTGAATTTGG	1020
λπλπαGΔTC	r aagttagag? T acaatactc	A TGTGCATCCA	AACAAACTAC	, ITATATIONE	ACCAGTTTCA	1080
MIMICONTO	* * ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	ACACTAAGG	AMICIA		TCAACCCGCA	1140
	a ccccrcaat	MAAAATTAAAA	A MCICCIII		TAAGGTGAAA	1200
ACGATCGTC					TAAGGTGAAT	1260
CTCTTATAA			T TGGCTCCCAT	AIICACITO	CCTAATCAAT	1320
TTATCTATA	A GTGTTCTGG		— መጽመርአጥአጥአ [©]	r calalaiai	/ TWITTING	1380
AGAAAACAT	'A TGTTTATT	A AMECANCIA	G CATATAACT	A GTGCAACTTA	ATACATGTGT	1200
ATATATA	T AAACCGTAG	C AAIGCACGG	<u> </u>			







TCTTCGGGGC GAAAACTCTC AAGGATCTTA CCGCTGTTGA GATCCAGTTC GATGTAACCC ACTCGTGCAC CCAACTGATC TTCAGCATCT TTTACTTTCA CCAGCGTTTC TGGGTGAGCA AAAACAGGAA GGCAAAAAAG GGAATAAGGG CGACACGGAA ATGTTGAATA CTCATACTCT TCCTTTTCA ATATTATTGA AGCATTTATC AGGGTTATCG CACATACTCT TTGAATGATA TTGAATGATA TTAGAAAAAAT AAACAAATAG GGGTTCCGCG CACATTTCCC CGAAAAGTGC CAC	
(2) INFORMATION FOR SEQ ID NO:8:	
(i) SEQUENCE CHARACTERISTICS:(A) LENGTH: 54 base pairs(B) TYPE: nucleic acid(C) STRANDEDNESS: single(D) TOPOLOGY: linear	
(ii) MOLECULE TYPE: Other	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:	
AGTATAAGTA AACACACCAT CACACCCTTG AGGCCCTTGC TGGTGGCCAT GGTG	54
(2) INFORMATION FOR SEQ ID NO:9:	
(i) SEQUENCE CHARACTERISTICS:(A) LENGTH: 55 base pairs(B) TYPE: nucleic acid(C) STRANDEDNESS: single(D) TOPOLOGY: linear	
(ii) MOLECULE TYPE: Other	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:	
CCTCACATCC CTTAGTGCCT AAGTTCGACG TCGGGCCCTC TAGTCGACGG ATCCA	55
(2) INFORMATION FOR SEQ ID NO:10:	
(i) SEQUENCE CHARACTERISTICS:(A) LENGTH: 35 base pairs(B) TYPE: nucleic acid(C) STRANDEDNESS: single(D) TOPOLOGY: linear	
(ii) MOLECULE TYPE: Other	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:	
AGCGGAAAAT GCCCGAAAGG CTTCCCCAAA TTGGC	35
(2) INFORMATION FOR SEQ ID NO:11:	
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 45 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear 	

(ii) MOLECULE TYPE: Other



(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:	
TGCGCAGGCG TCTGCAAGTG TAAGCTGACT AGTAGCGGAA AATGC	45
(2) INFORMATION FOR SEQ ID NO:12:	
 (i) SEQUENCE CHARACTERISTICS: (A) LENGTH: 50 base pairs (B) TYPE: nucleic acid (C) STRANDEDNESS: single (D) TOPOLOGY: linear 	
(ii) MOLECULE TYPE: Other	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:	
TACAACCTTT GCAAAGTCAA AGGCGCCAAG AAGCTTTGCG CAGGCGTCTG	50
(2) INFORMATION FOR SEQ ID NO:13:	
(i) SEQUENCE CHARACTERISTICS:(A) LENGTH: 50 base pairs(B) TYPE: nucleic acid(C) STRANDEDNESS: single(D) TOPOLOGY: linear	
(ii) MOLECULE TYPE: Other	
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:	5 0
GCAAGAGTTG CTGCAAGAGT ACCCTGGGAA GGAAGTGCTA CAACCTTTGC	50





The invention is not limited to the exact details shown and described, for it should be understood that many variations and modifications may be made while remaining within the spirit and scope of the invention defined by the claims.